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PTO/SB/05 (08-03)

Approved for use through 07/31/2006. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

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UTILITY PATENT APPLICATION TRANSMITTAL (Only for new nonprovisional applications under 37 CFR 1.53(b))	Attorney Docket No.	678-1220 (P11028)
	First Inventor	Seung-Hoon NAM, et al.
	Title	Apparatus and Method for Performing Channel...
	Express Mail Label No.	EL995744037US

22388 U.S. PTO
10/726118



APPLICATION ELEMENTS See MPEP chapter 600 concerning utility patent application contents.	ADDRESS TO: Mail Stop Patent Application Commissioner for Patents, P. O. Box 1450 Alexandria, VA 22313-1450
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- | | |
|--|---|
| <p>1. <input checked="" type="checkbox"/> Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)</p> <p>2. <input type="checkbox"/> Applicant claims small entity status.
See 37 CFR 1.27.</p> <p>3. <input checked="" type="checkbox"/> Specification [Total Pages 28]
(preferred arrangement set forth below)</p> <ul style="list-style-type: none">- Descriptive title of the invention- Cross Reference to Related Applications- Statement Regarding Fed sponsored R & D- Reference to sequence listing, a table, or a computer program listing appendix- Background of the Invention- Brief Summary of the Invention- Brief Description of the Drawings (if filed)- Detailed Description- Claim(s)- Abstract of the Disclosure <p>4. <input checked="" type="checkbox"/> Drawing(s) (35 U.S.C. 113) [Total Sheets 7]</p> <p>5. Oath or Declaration [Total Pages 2]</p> <p>a. <input checked="" type="checkbox"/> Newly executed (original or copy)
Copy from a prior application (37 CFR 1.63 (d))
(for continuation/divisional with Box 18 completed)</p> <p>b. <input type="checkbox"/> DELETION OF INVENTOR(S)
Signed statement attached deleting inventor(s)
named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).</p> <p>6. <input checked="" type="checkbox"/> Application Data Sheet. See 37 CFR 1.76</p> | <p>7. <input type="checkbox"/> CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)</p> <p>8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)</p> <p>a. <input type="checkbox"/> Computer Readable Form (CRF)</p> <p>b. Specification Sequence Listing on:</p> <p>i. <input type="checkbox"/> CD-ROM or CD-R (2 copies); or</p> <p>ii. <input type="checkbox"/> paper</p> <p>c. <input type="checkbox"/> Statements verifying identity of above copies</p> |
|--|---|

ACCOMPANYING APPLICATION PARTS

- | | |
|--|---|
| 9. <input checked="" type="checkbox"/> Assignment Papers (cover sheet & document(s)) | |
| 10. <input type="checkbox"/> 37 CFR 3.73(b) Statement (when there is an assignee) | <input type="checkbox"/> Power of Attorney |
| 11. <input type="checkbox"/> English Translation Document (if applicable) | |
| 12. <input checked="" type="checkbox"/> Information Disclosure Statement (IDS)/PTO-1449 | <input checked="" type="checkbox"/> Copies of IDS Citations |
| 13. <input type="checkbox"/> Preliminary Amendment | |
| 14. <input checked="" type="checkbox"/> Return Receipt Postcard (MPEP 503) (Should be specifically itemized) | |
| 15. <input checked="" type="checkbox"/> Certified Copy of Priority Document(s) (if foreign priority is claimed) | |
| 16. <input type="checkbox"/> Request and Certification under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent. Ck. \$896.00 (filing fee) | |
| 17. <input checked="" type="checkbox"/> Other: Ck. \$40.00 (recording fee) | |

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No.: _____

Prior application information: Examiner _____ Group Art Unit: _____

For CONTINUATION OR DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying continuation or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS

<input type="checkbox"/> Customer Number or Bar Code Label	(Insert Customer No. or Attach bar code label here)	or	<input checked="" type="checkbox"/> Correspondence address below
Name	Paul J. Farrell, Esq.		
Address	DILWORTH & BARRESE, LLP 333 Earle Ovington Blvd.		
City	Uniondale	State	New York
Country	U.S.A	Telephone	(516) 228-8484
		Fax	(516) 228-8516

Name (Print/Type)	Paul J. Farrell	Registration No. (Attorney/Agent)	33,494
Signature		Date	December 2, 2003

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that this correspondence and the documents referred to as enclosed are being deposited with the United States Postal Service on date below in an envelope as "Express Mail Post Office to Addressee" Mail Label Number EL995744037US addressed to Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Dated: December 2, 2003

(Name) Douglas M. Owens III

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Mail Stop Patent Application

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

UTILITY APPLICATION DATA SHEET UNDER 37 C.F.R. §1.76

Sir:

Transmitted herewith for filing is the patent application of

Inventor(s): Seung-Hoon NAM, Chung-Yong LEE and Myeong-Cheol SHIN

For: APPARATUS AND METHOD FOR PERFORMING CHANNEL
ESTIMATION IN AN ORTHOGONAL FREQUENCY DIVISION
MULTIPLEXING (OFDM) SYSTEM USING MULTIPLE ANTENNAS

Enclosed are:

- [X] 22 page(s) of specification
[X] 1 page(s) of Abstract
[X] 5 page(s) of claims
[X] 7 sheets of drawings [X] formal [] informal
[X] 2 page(s) of Declaration and Power of Attorney

ASSIGNEE NAME: SAMSUNG ELECTRONICS CO., LTD. and YONSEI UNIVERSITY
ASSIGNEE RESIDENCE: GYEONGGI-DO, REPUBLIC OF KOREA and SEOUL,
REPUBLIC OF KOREA, respectively

CERTIFICATION UNDER 37 C.F.R. § 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date December 2, 2003, in an envelope as "Express Mail Post Office to Addressee" Mail Label Number EL 995744037US addressed to: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.


Douglas M. Owens III

☐ This application claims the benefit under 35 U.S.C. §119(e) of U.S. Provisional Application(s) No(s).:

APPLICATION NO(S).:

FILING DATE

☒ Certified copy of application

Country

Appln. No.

Filed

REPUBLIC OF KOREA

2002/28275

May 2, 2003

from which priority under Title 35 United States Code, § 119 is claimed

☒ is enclosed.

☐ will follow.

CALCULATION OF UTILITY APPLICATION FEE

For	Number Filed	Number Extra	Rate	Basic Fee \$770.00
TOTAL CLAIMS	18	0	x 18 =	\$.00
INDEPENDENT CLAIMS	4	1	x 86 =	\$86.00
<input type="checkbox"/> Multiple Dep. Claim	0	0	290	\$.00
				TOTAL \$856.00

☐ Verified Statement of "Small Entity" Status Under 37 C.F.R. § 1.27. Reduced fees under 37 C.F.R. § 1.9(f) (50% of total) paid herewith \$.

- ☒ The amount of \$40.00 for recording the attached Assignment is enclosed as a separate check.
- ☒ A Check, in the amount of \$856.00, to cover the filing fee is attached.
- ☐ Charge fee to Deposit Account No. 04-1121.
TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.
- ☒ Please charge any deficiency as well as any other fee(s), which may become due under 37 C.F.R. § 1.16 and 1.17, at any time during the pendency of this application, or credit any overpayment of such fee(s) to Deposit Account No. 04-1121. Also, in the event any extensions of time for responding are required for the pending application(s), please treat this paper as a petition to extend the time as required and charge Deposit Account No. 04-1121 therefor. TWO (2) COPIES OF THIS SHEET ARE ENCLOSED.

Respectfully submitted,



Paul J. Farrell
Reg. No. 33,494
Attorney for Applicant(s)

Date: December 2, 2003

DILWORTH & BARRESE, LLP

333 Earle Ovington Blvd.
Uniondale, NY 11553
Tel. No. (516) 228-8484
Fax No. (516) 228-8516

PJF/DMO/lah

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FEE TRANSMITTAL

for FY 2003

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 896.00)

Complete if Known

Application Number	
Filing Date	Concurrent herewith
First Named Inventor	Seung-Hoon NAM, et al.
Examiner Name	
Art Unit	
Attorney Docket No.	678-1220 (P11028)

METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None☒ Deposit Account:Deposit Account Number
Deposit Account Name

04-1121

Dilworth & Barrese LLP

The Commissioner is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) during the pendency of this application☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	770
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1)			(\$ 770.00)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
18	-20** = 0	18.00	0.00
Independent Claims	4	-3** = 1	86.00
Multiple Dependent		290	0

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ 86.00)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity Small Entity

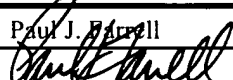
Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for <i>ex parte</i> reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	40
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 40.00)

SUBMITTED BY

Name (Print/Type)	Paul J. Farrell	Registration No. (Attorney/Agent)	33,494	Telephone	(516) 228-8484
Signature		Date	December 2, 2003		

(Complete if applicable)

CERTIFICATION UNDER 37 C.F.R. §1.10

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Dated: December 2, 2003

(Name) Douglas M. Owens III